

WHAT IS CLAIMED IS:

1. An information recording medium comprising an area for storing at least one video object and an area for storing management information, wherein:

the video object includes a video stream which is obtained by coding video signal, a first audio stream which is obtained by coding audio signal and a second audio stream which is obtained by coding audio signal;

the management information includes:

status information, the status information indicating whether or not the second audio stream is provided for after-recording operation, and whether or not the after-recording data is recorded to the second audio stream when the second audio stream is provided for after-recording operation;

bit rate of the first audio stream and bit rate of the second audio stream; and

coding mode of the first audio stream and coding mode of the second audio stream;

wherein when the second audio stream is provided for after recording, the first audio stream has the same bit rate and the same coding mode as the second audio stream.

2. An information recording apparatus for performing after-recording to the second audio stream included in the video object stored on the information recording medium according to claim 1, the apparatus comprising:

checking section for checking in advance whether or not the apparatus is

operable to perform after-recording to the second audio stream based on at least the status information and the bit rate included in the management information before the after-recording operation; and

starting section for starting after-recording operation when it is decided by the checking section that the apparatus is operable to perform after recording to the second audio stream.

3. The apparatus according to claim 2, wherein the checking section comprises:

a first determining section for determining whether or not the second audio stream is in a status where the after-recording operation can be done with reference to the status information of the second audio stream included in the management information;

a second determining section for determining whether or not the apparatus is able to encode the second audio stream with reference to the bit rate of the second audio stream included in the management information; and

a third determining section for determining that the apparatus is able to perform after-recording when it is determined that the second audio stream is in the status where the after-recording operation can be done and that the apparatus is able to encode the second audio stream.

4. The apparatus according to claim 3, wherein the checking section further comprises a notifying section for notifying a user that after-recording operation is impossible when the third determining section determines that the apparatus is not able

to perform after-recording.

5. The apparatus according to claim 3, wherein when the management information further comprises the number of audio streams included in the video object, the first determining section makes the determination with reference to the number of audio streams in addition to the status information.

6. The apparatus according to claim 3, wherein when the management information further comprises coding mode of the second audio stream, the second determining section determines whether or not the apparatus can encode the second audio stream with reference to the coding mode of the second audio stream in addition to the bit rate of the second audio stream.

7. A method for performing after-recording to the second audio stream recorded on the recording medium according to claim 1 by using a recording apparatus, the method comprising:

checking in advance whether or not the apparatus is operable to perform after-recording to the second audio stream based on at least the status information and the bit rate included in the management information before the after-recording operation; and

starting after-recording operation when it is decided by the checking that the apparatus is operable to perform after-recording to the second audio stream.

8. The method according to claim 7, wherein the checking comprises:

first determining whether or not the second audio stream is in a status where the after-recording operation can be done with reference to the status information of the second audio stream included in the management information;

second determining whether or not the apparatus is able to encode the second audio stream with reference to the bit rate of the second audio stream included in the management information; and

third determining that the apparatus is able to perform after-recording when it is determined that the second audio stream is in the status where the after-recording operation can be done and that the apparatus is able to encode the second audio stream.

9. The method according to claim 8, wherein the checking further comprises notifying a user that after-recording operation is impossible when by the third determining it is determined that the apparatus is not able to perform after-recording.

10. The method according to claim 8, wherein when the management information further comprises the number of audio streams included in the video object, the first determining makes the determination with reference to the number of audio streams in addition to the status information.

11. The method according to claim 8, wherein when the management information further comprises coding mode of the second audio stream, the second determining

determines whether or not the apparatus can encode the second audio stream with reference to the coding mode of the second audio stream in addition to the bit rate of the second audio stream.